

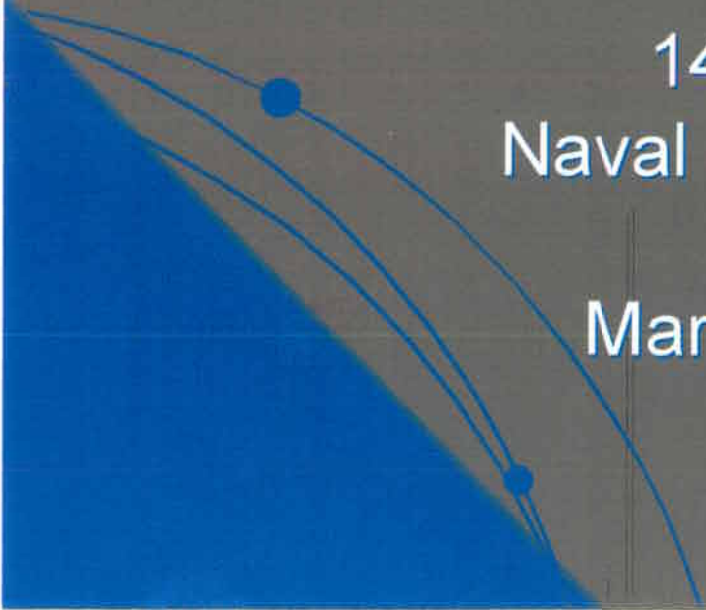
# Results of Structural Testing for FCS Common Chassis Prototype Concept

14<sup>th</sup> Annual GVSS

Naval Postgraduate School

Monterey, CA

March 29-April 1 2004



# Report Documentation Page

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# Briefing Outline

- Program Description
- Conclusions
- Recommendations/Path Forward
- FCS benefits



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# Program Description



BEAM TESTING

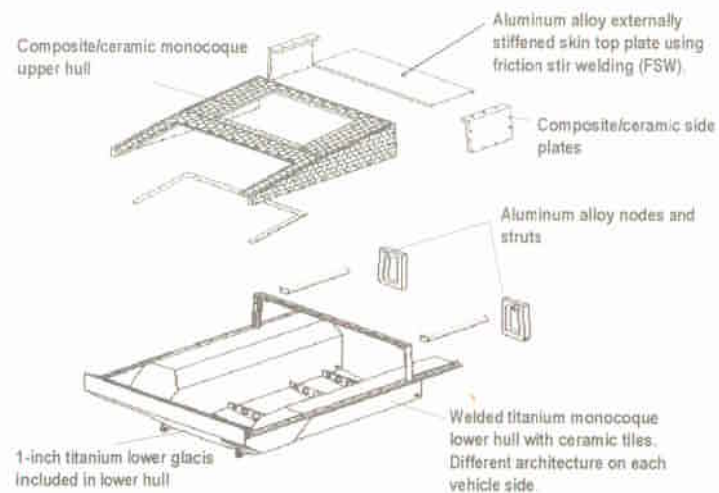
SYSTEM TESTING

**CORRELATION**

MODELING &  
SIMULATION  
(M&S)

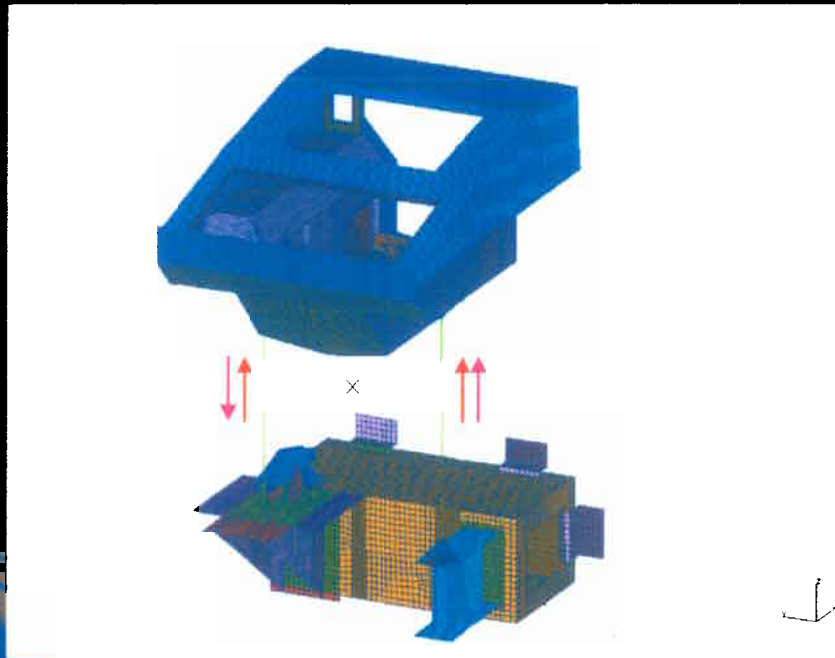
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# X-2 Test Structure

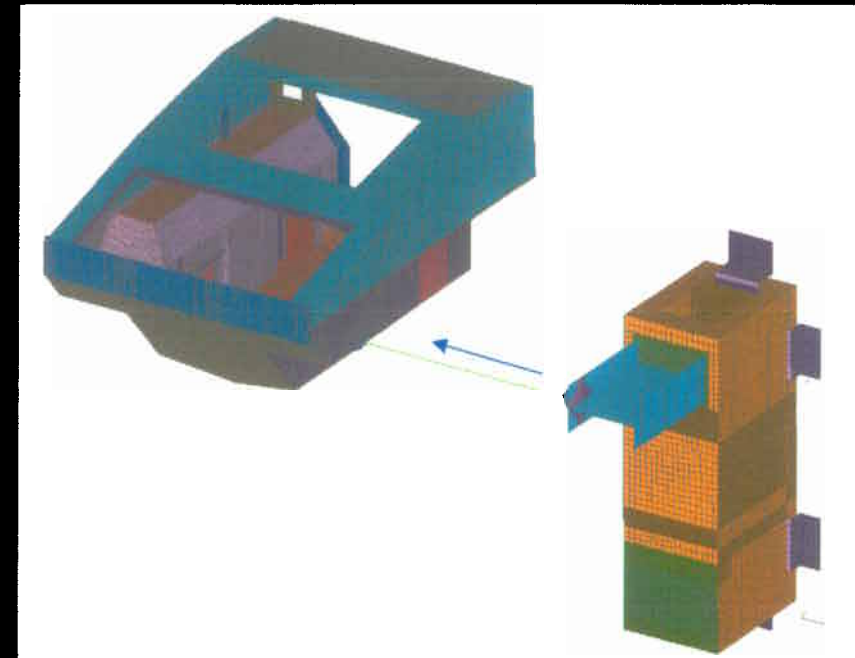


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# Structural Tests Performed



**Racking/Vertical**



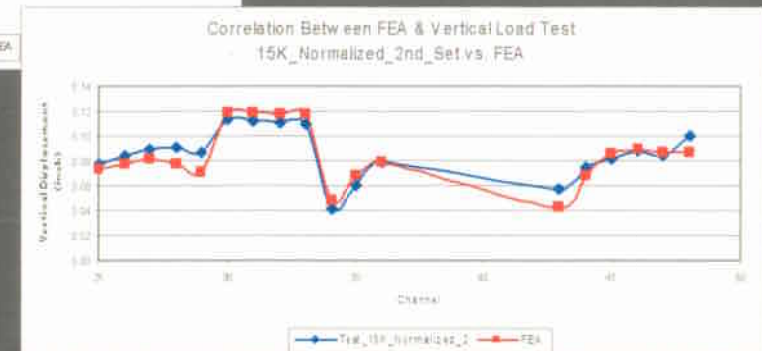
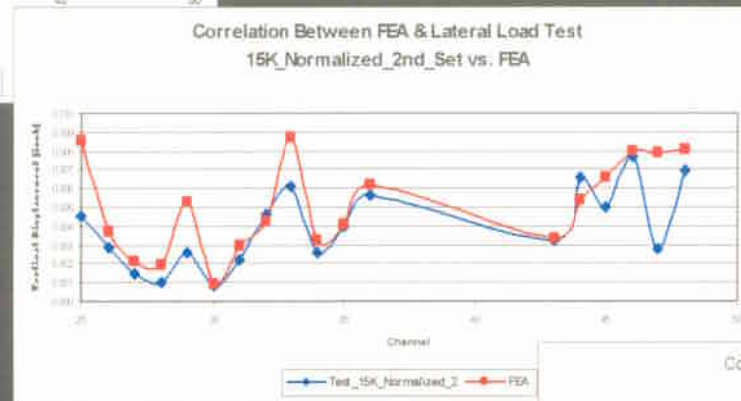
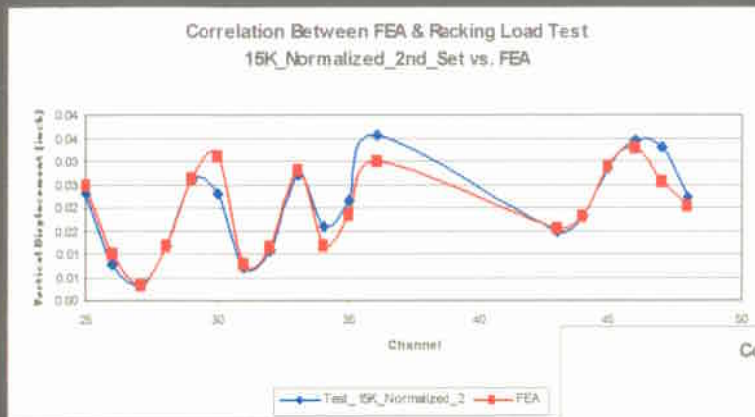
**Horizontal**

Maximum test loads were considered most severe



# Conclusions

- Correlation was successful



- Still issues of concern



# Conclusions (cont')

- Vehicle testing was successful
  - Structure withstood loads
  - Overall vehicle structure was still linear and elastic
  - Local failures occurred

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# Recommendations

- More materials testing
  - Developmental tests needed for better characterization
- Further racking tests
  - Stiffen support structure
- Build/Test different structures
  - Space-frame structure

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# Benefits to FCS

- Helps validate state of M&S technology on a vehicle hull structure
  - Tells the level of reliability that can be anticipated
- Testers working with Analyzers
  - Data exchange protocols can be established and refined

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## More Information

- Hodges, Bogetti, Meldrum, and Smith, "*FCS X-2 TEST SECTION: FINAL REPORT*", TARDEC, 2004
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